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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/090,163	03/05/2002	Shigeo Sakino	00862.022539.	5463
5514 7590 10/30/2008 FITZPATRICK CELLA HARPER & SCINTO 30 ROCKEFELLER PLAZA NEW YORK, NY 10112				
EXAMINER				
KIM, PETER B				
ART UNIT		PAPER NUMBER		
2851				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

## Application No.

10/090,163

## Applicant(s)

SAKINO, SHIGEO

## Examiner

Peter B. Kim

## Art Unit

2851

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 04 August 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 27-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 27-37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SE/US)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

Applicant's arguments filed on Aug. 4, 2008 have been fully considered.

#### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 27, 33 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi (JP 11-297256) in view of Oshio (JP 60-23941) and Iwamoto (4,854,444).

Takahashi discloses an exposure apparatus, a method of manufacturing a semiconductor device, a moving/guiding apparatus and a moving/guiding method for a moving/guiding apparatus comprising a first movable body (8) which move in a first direction (x-direction), a second movable body (7) which moves in a second direction (y-direction) intersecting the first direction (Fig. 1 and 6), a third movable body (3) guided to be movable on a surface plate (1), and driven in the first and second directions by receiving forces from the first and the second movable bodies (abstract), a first actuator (26) for driving the first movable body, and a second actuator (16) for driving the second movable body. Takahashi discloses a vacuum container (P) which puts the first, second and third movable bodies in a vacuum.

However, Takahashi does not disclose the first and second driving force transmission rod which connects the first and second movable body and a moving element of the first linear motor that is located outside the vacuum container. Oshio discloses a first and second driving force transmission rods with the longitudinal directions along the first and second directions and

connecting the first and second movable body and a moving element of the first and second linear motor (abstract, Fig. 1 and 2). Iwamoto discloses that because of the possibility of evaporation of a lubricant oil used when the movable body and the moving elements are placed in a vacuum, the motor and the elements are placed outside the vacuum container with a sealing mechanism for sealing the driving force transmission rods and the vacuum container (Fig. 5, col. 2, lines 39-56 and col. 6, lines 37-65).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the linear motor of Oshio to the invention of the Takahashi to simplify the structure of the device, and to arrange the motors outside of the container in order to prevent any contamination of the wafer on the movable body and to prevent evaporation of lubricants as taught by Iwamoto in col. 2, lines 39-56.

Claims 28, 29, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi in view of Oshio and Iwamoto as applied to claim 27 above, and further in view of Sakino et al. (Sakino) (5,040,431).

The further difference between the claimed invention and the modified Takahashi is the first, second third and fourth bearing. Sakino discloses a moving/guiding apparatus and method comprising first and second bearings (3c, 3b) for one side of the first and second movable body, and restraining the movable bodies at least in vertical and horizontal directions, and third and fourth bearings (3c, 3b, see Fig. 2-4) for the other side of the first and second movable body. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the

invention to provide the bearings of Sakino to the modified Takahashi in order to move and guide the movable bodies as taught by Sakino in the abstract.

Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi in view of Oshio and Iwamoto as applied to claim 27 above, and further in view of Asano (6,442,858).

The further difference between the modified Takahashi and the claimed invention is the stating pressure bearing for guiding the first, second and third movable bodies. Asano discloses static pressure bearing for guiding movable bodies (col. 8, lines 46-64). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the static pressure bearing to the modified Takahashi in order to guide and move the movable bodies as taught by Asano.

Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi in view of Oshio and Iwamoto as applied to claim 27 above, and further in view of Chang et al. (Chang) (6,457,864).

The further difference between the modified Takahashi and the claimed invention is the actuators which are ultrasonic linear motors. Chang discloses using ultrasonic linear motors to drive stages (col. 1, line 26 – col. 2, line 27). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the ultrasonic motors of Chang to the modified Takahashi in order to provide high precision movements.

***Response to Arguments***

Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter B. Kim whose telephone number is (571) 272-2120. The examiner can normally be reached on 9:00 AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diane Lee can be reached on (571) 272-2399. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Peter B. Kim/  
Primary Examiner, Art Unit 2851

October 29, 2008